

## NOTES ON A SPECIES OF ORTHEZIA FOUND IN KEW GARDENS.

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PLATES XVI., XVII.

At the Conversational Meeting of the Club in July I had the pleasure of exhibiting an insect which I had found in the Economic House, Kew Gardens.

I labelled the insect at the meeting "A supposed *Dorthesia*, allied to the Aphis and the Coccus," obtaining this information from Westwood's "Introduction to the Classification of Insects." On page 450, Vol. ii, he writes:—

"In *Dorthesia* the antennæ of the male are very long, but simple, and the abdomen terminated by a thick pencil of very delicate white setæ; and the female is covered with elongated flakes of a waxy secretion, which, in some exotic species in my collection, are nearly an inch long. I possess males belonging to the genus *Dorthesia*, the wings of which are nearly an inch in expansion."

In the insect-room at South Kensington Natural History Museum, I found several species of the genus *Orthezia*, but they all slightly differ from the one I obtained at Kew.

From the inquiries I have made there is no doubt about the insect being an *Orthezia*, and I believe it is a new species.

There is a slight confusion about the name of the genus. In Westwood it is written *Dorthesia*, but by later writers *Orthezia*; the latter form is correct, for the genus is named after l'Abbe d'Orthez; and by an error the d' was joined to the word Orthez, making it Dorthez.

The genus *Orthezia* is closely allied to the Aphis and the Coccus; it is a true plant-louse, and found in many parts of the world.

There is not much difficulty in observing the habits of these creatures. I kept some in a cork-cell, without food, for over three

weeks. Two females, after having spent three weeks in a cork-cell, were chloroformed, and mounted as dry objects. I was greatly surprised, on looking at the slide a week afterwards, to find one of the females alive, and twenty young *Orthezia*, all alive and doing well.

The *Orthezia* which I am exhibiting to-night were first seen about twelve months ago, on a *Strobilanthes*, a Chinese plant, which has been in the Economic House about three years.

The insects have gradually been spreading, in spite of measures taken to annihilate them. Now they may be found on *Scutellaria*, and other foreign plants in the adjoining house. A peculiarity of the genus *Orthezia* is the secretion of wax. Round the body there is a waxen fringe, and the females possess a large egg-pouch, or marsupium, which grows gradually from the extremity of the abdomen. The eggs are laid inside the marsupium, and their number increases in proportion to the size of the pouch.

By this arrangement the eggs furthest from the abdomen are the first laid, and, consequently, first hatched. At the extremity of the marsupium, on the upper surface, there is an opening, through which the young *Orthezia* crawl.

In some specimens only a very small opening exists at the extremity of the marsupium, not large enough for the young to crawl through. When this occurs I find a square opening is made near the abdominal end of the marsupium, but I cannot say how this opening is made; to all appearance it looks as if it were broken, or gnawed.

On opening the marsupium the eggs and the young *Orthezia* are seen. The eggs, when first laid, are white, but afterwards become light brown. They are wrapped up in fine waxen fibres, resembling cotton-wool. In a good-sized marsupium about 20 eggs may be found, together with several young.

The young *Orthezia* are scarcely visible to the naked eye, and they spend their early days in the marsupium, using it as a place of protection. Often they may be seen crawling about their mother, and when danger threatens they crawl inside the pouch.

When young, there is a slight fringe of wax round their bodies, and a few waxen tufts on the middle of their backs.

I saw a young one go through the process of changing its skin.

The old skin splits along the back, and then the young one gradually backs itself out.

The males possess wings, and are destitute of the waxen covering. In Westwood's "Introduction to the Classification of Insects," Vol. i, Plate I, there is an engraving of the male of *Orthezia cataphractus*. The male I found at Kew (caught flying about near the food plant) differs considerably from the one figured in Westwood. The insect is much smaller, and there are only two waxen threads from the extremity of the abdomen. In *Orthezia cataphractus* there is a large bunch.

Mr. Douglas, who has written several papers on *Orthezia*, which may be found in the Entomological Society's Transactions for 1881, states that the larvæ of males of *Orthezia urticæ* are like those of the females in form, and are only distinguished from the females by two projecting posterior laminae.

I have not yet discovered this form of the male among the Kew species. I have shut up separately many *Orthezia*, without the marsupium, in hopes of discovering a male, but within a fortnight the marsupium has begun to form.

At the end of the third week my insects have generally died of starvation, as I am unable to obtain food for them.

During the past eight weeks I have seen many dozens of young *Orthezia* born, but not a single winged male has made its appearance. Probably the *Ortheziæ*, following the custom of their relations, the Aphides, produce all females for many generations. I must express my thanks to Mr. J. W. Douglas for his kind response to my inquiries, and I shall take the liberty to quote from his kind letter the valuable information contained in it. He says: "I am greatly obliged to you for the *Orthezia*; it appears to me to be quite new, but I am not sure that the absence of lamellæ on the thorax is normal, for all of them in the tube are more or less broken. I have stated all I know about *Orthezia* in the Entomological Society's Transactions, and previously in the 'Entomologists' Monthly Magazine.' There is one species (American, Walker) that I do not know, and there is one species figured by Cornstock, in his report for 1880, which is not yours." It is my intention to forward more specimens to Mr. Douglas, as he possesses better means of identifying the insect than I do. I also feel much indebted to Mr. S. J. McIntire for the help he has given me in collecting specimens.

## PLATE XVI.

- FIG. 1. *Orthezia insignis*, male,  $\times 30$  diam.  
,, 2. ,, ,, female,  $\times 30$  diam.  
,, 3. Leg of male,  $\times 125$  diam.  
,, 4. Tips of antenna of male,  $\times 125$  diam.  
,, 5. End of abdomen of male, showing double setæ,  $\times 125$  diam.

## PLATE XVII.

- FIG. 6. Female *Orthezia*, waxy secretion removed by soaking in benzole,  
 $\times 30$  diam.  
,, 7. Under side of same,  $\times 30$  diam.  
,, 8. Marsupium of female laid open and showing eggs and young *in situ*,  
 $\times 30$  diam.
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